

WHAT IS CLAIMED IS:

1. A channel optimization system for use with a

2 communications channel, comprising:

3 an assorter configured to receive first and second signals

4 having disparate transmission characteristics and select one of

5 said first and second signals; and

6 a translator, coupled to said assorter, configured to encode

7 said selected one of said first and second signals into a symbol

8 representation as a function of a transmission characteristic

9 associated therewith.

2 1. The channel optimization system as recited in Claim 1

2 wherein said assorter, comprises:

3 a parsing subsystem configured to extract control information

4 associated with said first and second signals; and

5 a selector, coupled to said parsing subsystem, configured to

6 select one of said first and second signals in accordance with said

7 control information.

3. The channel optimization system as recited in Claim 1
2 wherein said translator, comprises:

3 a map table evoker configured to determine a conversion table
4 to employ with said selected one of said first and second signals;
5 and

6 a converter, coupled to said map table evoker, configured to
7 encode said one of said first and second signals into said symbol
8 representation.

4. The channel optimization system as recited in Claim 1
2 wherein said first signal is a voice signal and said second signal
3 is a data signal.

5. The channel optimization system as recited in Claim 1
2 wherein said channel optimization system is embodied in at least
3 one of a transmitter and a receiver associated with a
4 telecommunications network associated with said communications
5 channel.

6. The channel optimization system as recited in Claim 1
2 wherein said channel optimization system is at least partially
3 embodied in a sequence of operating instructions operable on a
4 processor.

7. The channel optimization system as recited in Claim 1
2 wherein said communications channel has a frequency dependent
3 channel capacity and said first and second signals have different
4 bit error rate transmission characteristics, said translator
5 configured to encode said selected one of said first and second
6 signals into said symbol representation as a function of said bit
7 error rate transmission characteristics and said channel capacity.

8. A method for use with a communications channel,

2 comprising:

3 receiving first and second signals having disparate

4 transmission characteristics;

5 selecting one of said first and second signals; and

6 encoding said selected one of said first and second signals

7 into a symbol representation as a function of a transmission

8 characteristic associated therewith.

9. The method as recited in Claim 8 further comprising

2 extracting control information associated with said first and

3 second signals, said selecting said one of said first and second

signals being in accordance with said control information.

10. The method as recited in Claim 8 wherein said encoding

2 further comprises determining a conversion table to employ when

3 encoding said selected one of said first and second signals.

11. The method as recited in Claim 8 wherein said first

2 signal is a voice signal and said second signal is a data signal.

12. The method as recited in Claim 8 wherein said method is
2 performed in at least one of a transmitter and a receiver
3 associated with a telecommunications network associated with said
4 communications channel.

13. The method as recited in Claim 8 wherein said method is
2 at least partially embodied in a sequence of operating instructions
3 operable on a processor.

14. The method as recited in Claim 8 wherein said
2 communications channel has a frequency dependent channel capacity
3 and said first and second signals have different bit error rate
4 transmission characteristics, said encoding said selected one of
5 said first and second signals into said symbol representation being
6 a function of said bit error rate transmission characteristics and
7 said channel capacity.

15. A channel optimization system for use with a
2 communications channel, comprising:

3 an assorter means that receives first and second signals
4 having disparate transmission characteristics and selects one of
5 said first and second signals; and

6 a translator means, coupled to said assorter means, that
7 encodes said selected one of said first and second signals into a
8 symbol representation as a function of a transmission
9 characteristic associated therewith.

16. The channel optimization system as recited in Claim 15
2 wherein said assorter means, comprises:
3
4 a parsing subsystem means that extracts control information
5 associated with said first and second signals; and
6
7 a selector means, coupled to said parsing subsystem means,
8 that selects one of said first and second signals in accordance
9 with said control information.

17. The channel optimization system as recited in Claim 15

2 wherein said translator means, comprises:

3 a map table evoker means that determines a conversion table to

4 employ with said selected one of said first and second signals; and

5 a converter means, coupled to said map table evoker means,

6 that encodes said one of said first and second signals into said

7 symbol representation.

18. The channel optimization system as recited in Claim 15

2 wherein said first signal is a voice signal and said second signal

3 is a data signal.

19. The channel optimization system as recited in Claim 15

2 wherein said channel optimization system is embodied in at least

3 one of a transmitter and a receiver associated with a

4 telecommunications network associated with said communications

5 channel.

20. The channel optimization system as recited in Claim 15

2 wherein said channel optimization system is at least partially

3 embodied in a sequence of operating instructions operable on a

4 processor.

21. The channel optimization system as recited in Claim 15
2 wherein said communications channel has a frequency dependent
3 channel capacity and said first and second signals have different
4 bit error rate transmission characteristics, said translator means
5 encoding said selected one of said first and second signals into
6 said symbol representation as a function of said bit error rate
7 transmission characteristics and said channel capacity.

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22. A transmitter for use with a communications channel of a
2 telecommunications network that transmits first and second signals
3 having disparate transmission characteristics, comprising:
4 a bit merge and framer subsystem that merges said first and
5 second signals into a bit stream;
6 a bit-to-symbol mapping subsystem, coupled to said bit merge
7 and framer subsystem, including:
8 an assorter that receives first and second signals and
9 selects one of said first and second signals, and
10 a translator, coupled to said assorter, that encodes said
11 selected one of said first and second signals into a symbol
12 representation as a function of a transmission characteristic
13 associated therewith; and
14 a modulator, coupled to said bit-to-symbol mapping subsystem,
15 that modulates said symbol representation for insertion on to said
16 communications channel.

23. The transmitter as recited in Claim 22 wherein said

2 assorter, comprises:

3 a parsing subsystem that extracts control information
4 associated with said first and second signals; and

5 a selector, coupled to said parsing subsystem, that selects
6 one of said first and second signals in accordance with said
7 control information.

24. The transmitter as recited in Claim 22 wherein said

2 translator, comprises:

3 a map table evoker that determines a conversion table to
4 employ with said selected one of said first and second signals; and

5 a converter, coupled to said map table evoker, that encodes
6 said one of said first and second signals into said symbol
7 representation.

25. The transmitter as recited in Claim 22 wherein said first

2 signal is a voice signal and said second signal is a data signal.

26. The transmitter as recited in Claim 22 wherein said

2 channel optimization system is embodied in at least one of a
3 transmitter and a receiver associated with said telecommunications
4 network.

27. The transmitter as recited in Claim 22 wherein said
2 channel optimization system is at least partially embodied in a
3 sequence of operating instructions operable on a processor.

28. The transmitter as recited in Claim 22 wherein said
2 communications channel has a frequency dependent channel capacity
3 and said first and second signals have different bit error rate
4 transmission characteristics, said translator encoding said
5 selected one of said first and second signals into said symbol
6 representation as a function of said bit error rate transmission
characteristics and said channel capacity.

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